

USSR

UDC 616.981.455-036.2(571.6)

SHAPIRO, S. Ye., BUSOYEDOVA, N. M., and POGORELOV, M. Ye., Clinic of Infectious Diseases, Khabarovsk Medical Institute, and Khabarovsk Plague-Control Station

"Some Results of Tularemia Studies in the Soviet Far East"

Moscow, Sovetskaya Meditsina, No 11, pp 98-101

Abstract: Sporadic cases of tularemia were reported in the mid-1950s in the Khabarovsk region of the Soviet Union. Several investigations since then have confirmed that these cases were not accidental. Isolation of tularemia bacteria from ticks, serologic studies, and detection of numerous cases of the disease throughout the 1960s using improved diagnostic methods led to the conclusion that the Khabarovsk region is part of an extensive natural tularemia focus embracing Eastern Siberia, Yakutia, the Maritime Province, and Sakhalin. Further research will probably confirm the existence of local tularemia on Kamchatka and natural foci of the infection in Amur and Magadan Oblasts, on the Kuril Islands, and elsewhere in the Far East.

USSR

UDC 616.981.455-036.21(571.62)

BUSOYEDOVA, N. M., ANTIP'YEVA, O. A., LIPAYEV, V. M., KOZLOVSKAYA, O. L.,
CHERNYKH, P. A., FEOKISTOV, A. Z., GRIGOROV, V. I., CHIPANIN, V. L., and
KHAMAGANOV, S. A., Khabarovsk Anti plague Station

"Characteristics of Natural Foci of Tularemia in Khabarovskiy Kray"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, Apr 71,
pp 26-31

Abstract: A study conducted in the southern part of Khabarovskiy Kray indicated that natural foci of tularemia in forested and agricultural areas are different from those found in other parts of the USSR, because *Arvicola terrestris* and the common vole (*Microtus arvalis*) are absent, and hares and house mice are not numerous. Muskrats were found at only one focus. In forested regions the principal host is the large-toothed redbacked vole (*Clethrionomys rufocanus*), while the long-time reservoir and vectors are *I. persulcatus* and *H. concinna* ticks. Forest and field mice and the Siberian chipmunk were also infected. In agricultural regions the hosts are the northern redbacked and Far-Eastern vole (*Clethrionomys rutilus*; *Microtus fortis*), while *D. silvarum* and *H. concinna* ticks constitute the reservoir and vectors. A low epizootic level and still lower epidemic activity were typical for
1/2

- 36 -

USSR

BUSOYEDOVA, N. M., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, Vol 48, No 4, Apr 71, pp 26-31

tularemia foci in Khabarovskiy Kray in the vicinity of the Amur River. The low rate of infection of human beings was due to the absence or small numbers of classical hosts (*Arvicola terrestris*, common vole, and hares) with which human beings may come into contact, the absence of active and widespread epizootics, and the predominance in agricultural areas of a rodent of the secondary host group (field mouse). Of seven cases of tularemia recorded, five were of the bubonic form. In one instance the source of infection was water containing *P. tularensis*, and in another instance the infection was apparently due to introduction of the agent into an eye by hands soiled with rodent feces. Testing of the population at known tularemia foci with tularin resulted in a positive allergic reaction in 1.2-2.5% of cases. The agglutination reaction was positive in 2.5-5.8%, and the passive hemagglutination reaction in 3.3-9.7% of cases. The data reported were obtained in an investigation conducted during 1956-1968.

2/2

1/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--KINETICS OF SODIUM DISSOLUTION IN A SODIUM CHLORIDE MELT DURING
DILUTION OF THE METALLIC PHASE WITH LEAD -U-
AUTHOR-(05)-BUSSEMACHUKAS, V.B., KUBASOV, V.L., STATSENKO, S.I., MALANINA,
I.B., ZATELSKIY, S.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(2) 280-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ELECTROLYSIS, SODIUM CHLORIDE, SOLUBILITY, SODIUM, LEAD,
ELECTRIC CURRENT, CHLORIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1983/0918 STEP NO--UR/0080/70/043/002/0280/0284
CIRC ACCESSION NO--AP0053842
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0053842

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DISSOLN. RATE OF NA FROM NA-PB LIQ. MIXTS. OF A 1-10 WT. PERCENT NA CONCN. IN AN AGITATED NACL MELT WAS STUDIED EXPTL. IN THE PRESENCE OF CL AT 850DEGREES. THE DEPENDENCE OF THE CURRENT D. OF NA DISSOLN. (I) IN A-CM PRIME2 ON THE NA CONCN. IN THE NA-PB MIXT. IN WT. PERCENT (C) WAS DETD. AS I EQUALS $0.0095C$ PRIME2. THE CURRENT EFFICIENCY OF THE ELECTROLYSIS OF THE NACL MELT WITH A PB CATHODE IN PERCENT (A) WAS CALCD. AS A EQUALS $100-0.95C$ PRIME2- I SUBT, WHERE I SUBT IS THE TOTAL CURRENT D. IN A-CM PRIME2. THE CALCNS. AGREE WITH EXPT. PROVING THE FACT THAT CURRENT LOSSES ARE PRIMARILY DETD. BY THE REVERSE DISSOLN. OF NA IN THE NACL MELT AND BY THE REACTION WITH CL.

UNCLASSIFIED

USSR

UDC 616.988.75-085.339:576.858.75.095.383:616.988.75-035.2]-036.1

GAYLONSKAYA, I. N., KOPELEV, M. F., BUSUYEK, G. P., KUZNETSOV, V. P., and
LOZINSKAYA, T. M., Institute of Epidemiology and Microbiology imeni
N. F. Gamaleya, Academy of Medical Sciences USSR, Moscow

"Clinical Course of Influenza Treated With Interferon and Symptomatic Agents"

Moscow, Klinicheskaya Meditsina, No 2, 1973, pp 117-119

Abstract: The clinical course of influenza was much milder in patients treated solely with concentrated leukocytic interferon than in a matched group treated with conventional symptomatic drugs. Interferon treatment was administered 4 days: 2 drops (= 200 units) instilled in each nostril the first and second days of the disease every other hour and the same amount on the third and fourth days 5 to 6 times a day. Total interferon used was 4 to 6 ml. In these patients, the symptoms of intoxication were less pronounced than in controls and they lasted 2.4 days compared to 3.8 days while chills persisted 1.8 and 2.6 days, respectively. Body temperature returned to normal on day 2 or 3 of the disease compared to day 4 or 5 in those treated with symptomatic drugs. The EKG changes too were less pronounced in the patients given interferon. Interferon did not produce side effects or complications nor did it prevent the formation of type-specific antibodies.

1/1

- 86 -

USSR

UDC: 621.039.538.4

BUSYGIN, B. P., KRIVONOSOV, A. I., KUVSHINOV, V. Z., Moscow Automobile and Highway Institute

"A Device for Measuring and Regulating the Temperature of the Coolant in an Internal Combustion Engine"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, Mar 72, Author's Certificate No 329515, Division G, filed 15 May 70, published 9 Feb 72, p 189

Translation: This Author's Certificate introduces a device for measuring and regulating the temperature of the coolant in an internal combustion engine. The device contains a pickup located in the cooling system of the engine and connected in the circuit of a thermal converter which controls an electromagnetic clutch connected to the fan. The device also contains a water pump connected to the crankshaft of the engine. As a distinguishing feature of the patent, control accuracy is improved, the design is simplified and power consumption is reduced by making the electromagnetic clutch in the form of a generator with stationary field winding connected at the output of the thermal converter and equipped with beak-shaped poles. Lo-
1/2

- 169 -

USSR

BUSYGIN, B. P. et al., USSR Author's Certificate No 329515

cated in the field of these poles is part of a short-circuited winding on the shaft of the water pump. The other part of this winding is located in an annular groove on the base of the fan. The two parts of the shorted winding are separated by a diamagnetic sheave.

2/2

Acc. Nr:

AP0046017

Abstracting Service:

INTERNAT. AEROSPACE

Ref. Code:

ABST 5-90 UR0057

A70-25116 # Excitation and ionization of atoms under Knudsen conditions of operation of a cesium diode (Vozbuzhdenie i ionizatsiia atomov v Knudsenovskikh rezhimakh raboty tsezievogo dioda). E. P. Busynin, V. G. Grigor'iants, B. G. Zhukov, and I. P. Iavor (Akademiia Nauk SSSR, Fiziko-Tekhnicheskii Institut, Leningrad, USSR). Zhurnal Tekhnicheskoi Fiziki, vol. 40, Jan. 1970, p. 211-217. 10 refs. In Russian.

Description of the measurement method employed and summary of the results obtained in an experimental study of the processes of excitation and ionization of cesium atoms in the interelectrode space under Knudsen conditions of operation of a narrow-gap cesium diode. The special features leading to luminescence in the gap under undercompensated conditions are noted. It is shown that under these conditions excitation is caused by an accelerated-electron beam. From the results of spectroscopic measurements the electron energy distribution in the region of the boundaries of line manifestation and in the anode region of the gap is determined for both small and large anode voltages. It is observed that the conditions of excitation of atoms change with the start of ionization in the interelectrode space.

A.B.K.

REEL/FRAME
19781078

USSR

UDC 911.3:616.988.25 (571.1)

TSAPLIN, I. S., and BUSYGIN, F. F.

"Epidemiological Characteristics of Tickborne Encephalitis and Omsk Hemorrhagic Fever in the "Transition" Zone of the West Siberian Lowlands"

V sb. Vopr. infekts. patol. (Problems of Infection Pathology -- collection of works), Vyp. 2. Omsk, 1970, pp 31-33 (from RZh-Meditsinskaya Geografiya, No 4, Apr 71, Abstract No 4.36.62)

Translation: Results of the sero-epidemiological survey of the population show wide fluctuation limits for potential epidemiological valence in natural foci of tickborne encephalitis and Omsk hemorrhagic fever. Four types of pseudofoci are isolated and briefly described: those lying on the border of southern taiga and sub-taiga aspen-birch forests in the south Siberian lowlands, directly circling the forests; those of the "transition" subzone of the sub-taiga aspen-birch forests; pseudofoci of Omsk hemorrhagic fever in the zone of outbreaks of this infection associated with the northern forest steppe; and those of the steppe zone.

1/1

- 31 -

USSR

UDC 911.3.616.988.26 (571.1)

BUSYGIN, F. F.

"The Role of the Muskrat in the Formation of Natural Foci of Omsk Hemorrhagic Fever"

V sb. Vopr. infekts. patol. (Problems of Infection Pathology -- collection of works) Vyp. 2. Omsk, 1970, pp 36-37 (from RZh-Meditsinskaya Geografiya, No 4, Apr 71, Abstract No 4.36.68)

Translation: The muskrat, acclimatized in the 1930's to Western Siberia, was found to be highly sensitive to Omsk hemorrhagic fever virus; this was one of the causes of periodic mass epizootics among these animals in the Omskaya, Novosibirskaya, Tyumenskaya and Kurganskaya oblasts. The muskrat aids in the development of new natural foci of disease in formerly disease-free areas. Indigenous vertebrates and nonvertebrates participate in maintaining newly reorganized foci. When necessary conditions are met, muskrat foci of Omsk hemorrhagic fever can evolve into the usual natural foci of this disease.

1/1

- 32 -

USSR

UDC 911.3.616.988.26 (571.13)

BUSYGIN, F. F.

"Epidemiological Characteristics of Pseudofoci in the Peripheral Zone of Omsk Hemorrhagic Fever"

V sb. Vopr. infekts. patol. (Problems of Infection Pathology -- collection of works) Vyp. 2. Omsk, 1970, pp 34-35 (from RZh-Meditsinskaya Geografiya, No 4, Abstract No 4.36.69)

Translation: A layer of high immunity to Omsk hemorrhagic fever (52.6%) was discovered among the people of Krutinskiy rayon (Omskaya Oblast), distributed on the periphery of the known zone of distribution for native foci of this infection. Considering the low level of contact of the local population with Ixodes ticks (0.4-1.4%) and with the muskrat (0.6%), the distribution of sero-positive cases by age groups suggests a possible cycle in nature of unique virus strains of the tickborne encephalitis complex, as well as possible virus transmission by other arthropod carriers (mosquitoes).

1/1

USSR

UDC 911.3:616.988.25(571.1)

TSAPLIN, I. S., and BUSYGIN, F. F.

"Characteristics of Population Contacts With Ticks at the Junction of Distribution Zones of the Tickborne Encephalitis and Omsk Hemorrhagic Fever"

V sb. Vopr. infekts. patol. (Problems of Infection Pathology -- collection of works) Vyp. 2. Omsk, 1970, pp 38-40 (from RZh-Meditsinskaya Geografiya, No 4, Apr 71, Abstract No 4.36.63)

Translation: Data was collected by house to house study of population contact with Ixodes ticks in 16 settlements in Omskaya and Novosibirskaya oblasts. Higher contact indices (26%) were noted in areas in the southern part of the southern taiga subzone, as well as at its junction with the aspen-birch forest subzone; lower indices (2.1%) were noted in the steppe zone. Mature people are more frequently attacked by ticks as a result of their labors in the forest: gathering wood, etc. Outbreaks of Omsk hemorrhagic fever and encephalitis are seldom noted; when noted, they are in areas of low frequency population contact with ticks.

1/1

USSR

UDC 911.3:616.99:576.895.42(571)

NETSKIY, G. I., BUSYGIN, F. F., PRIGORODOV, V. I., FEDOROVA, T. N., and SHAYMAN, M. S.

"Landscape and Epidemiological Regional Classification of Territories in Relation to Obligate Transmissible Diseases Carried by Ticks, and Reasons for Planned Prophylaxis of Epidemic Outbreaks"

V sb. Materialy XV Vses. sezda epidemiologov, mikrobiologov i infektsionistov, Tezisy Dokl. Ch. 1 (Proceedings of the 15th All Union Meeting of Epidemiologists, Microbiologists, and Infectious Disease Specialists, Theses Reports, Part 1 -- collection of Works), Moscow, 1970, pp 98-99 (from RZh-Meditsinskaya Geografiya, No 2, Feb 71, Abstract No 2.36.54)

Translation: According to an accumulation of collected data, Western Siberia can be preliminarily divided into the following territorial epidemiological zones in relation to specified infectious diseases: central taiga, southern taiga, aspen-birch subtaiga forests, mountainous-taiga, forest-steppe, and steppe. The landscape epidemiological regions of tickborne encephalitis are distributed over all zones, except the steppe. The steppe and the forest-steppe are characterized in this classification as regions of Asian tickborne

1/2

USSR

NETSKIY, G. I., et al., RZh-Meditsinskaya Geografiya, No 2, Feb 71, Abstract
No 2.36.54)

rickettsiosis. As far as Omsk hemorrhagic fever is concerned, the landscape
epidemiological regions are divided between the forest-steppe zones of the
Omsk, Novosibirsk, Tyumensk, and Kurgansk districts.

2/2

- 38 -

AA0046274

BUSYGIN N.A. UR 0482

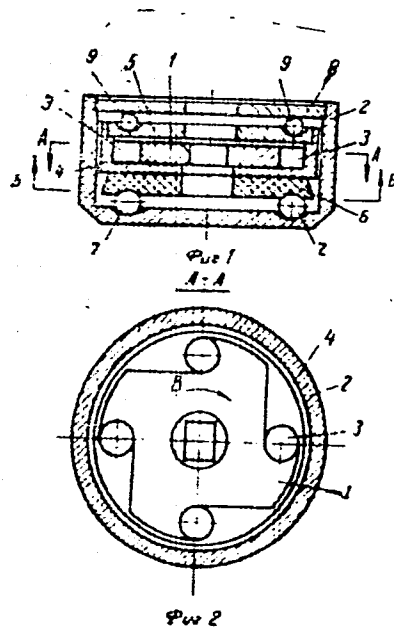
Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent,

242610 OSCILLATION DAMPER in the form of a flexible-friction coupling, consists of half-couplings 1 and 2, with the driving half-coupling 1 coupled through rollers 3 to an engagement mechanism. To provide increased efficiency, the damper differs in that flexible ring 6 of the engagement mechanism is on the outside of rim 4 and interacts with balls 7, located in hollows in half-coupling 2. When driving half-coupling 1 is rotated clockwise, rollers 3 become wedged between half-coupling 1 and rim 4 and turn it in the same direction. Since balls 7 cannot move from the hollows in half-coupling 2, ring 6 deforms and causes the balls to rotate. The effort required to deform the ring also creates the braking moment, and the amount of the effort is controlled by screwing down cover 8, which presses on rim 4 and ring 6 through balls 9. When half-coupling 1 moves in the other direction the rollers are unwedged and the half-coupling rotates freely in relation to the rim. 25.12.67. as 1205986/25-28.

19781407

AA0046274

Iu.I.SUVOROV. N.A.BUSYGIN. (15.9.69.) Bul.15/
25.4.69. Class 47a. Int.Cl. F16f.



mc

19781408

1/3 026 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--HISTOCHEMICAL CHARACTERISTICS OF LEPROUS LESIONS OF THE BUCCAL
MUCOSA -U-
AUTHOR--(03)--PANIKAROVSKIY, V.V., GRIGORYAN, A.S., BUSYGINA, M.V.
COUNTRY OF INFO--USSR
SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 4, PP 32-38
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--HISTOCHEMISTRY, LEPROSY, COLLAGEN, MACROPHAGE, BLOOD VESSEL,
TUMOR, GLYCOGEN, CYTOPLASM, MOUTH
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/0438 STEP NO--UR/0206/70/000/004/0032/0038
CIRC ACCESSION NO--AP0124183
UNCLASSIFIED

2/3 026

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124183

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WHEN THE BUCCAL MUCOSE IS AFFECTED IN LEPROSY, THE LEPRMATOUS PROCESS INVOLVES ITS DIFFERENT COMPONENTS. ELEMENTS OF THE CONNECTIVE TISSUE UNDERGO DESTRUCTION, PARTICULARLY FIBRILLAR STRUCTURES. AT THE PEAK OF THE LEPRMATOUS PROCESS FRAGMENTATION AND LYSIS OF COLLAGEN FIBERS ARE OBSERVED. THE REMAINING FIBRILLS HAVE DIFFERENT THICKNESS AND SHAPE, ARE IRREGULARLY ORIENTED, AND ACQUIRE ARGENTOPHILIA. THE ELASTIC CARCASS OF THE BUCCAL MUCOSE IS DESTROYED. INTENSIVE PROLIFERATION REACTION OF LYMPHO HISTIOCYTIC ELEMENTS IS NOTED. LEPROUS CELLS REPRESENTING DERIVATIVES OF THE HISTIOCYTIC SERIES POSSESS ALL THE CHARACTERISTICS OF MACROPHAGES WHICH HAVE THE STRUCTURE AND HISTOCHEMICALLY DETECTABLE PROPERTIES SPECIFIC FOR LEPROUS FORMATIONS. INVOLVEMENTS OF THE WALLS OF BLOOD VESSELS IS CONSIDERABLE, EVEN THOUGH THIS PROCESS IN SPECIFIC GRANULOMAS IS FREQUENTLY OVERLAPPED BY INTENSIVE FORMATION OF NEW VESSELS OF THE CAPILLARY TYPE. EPITHELIUM OF THE BUCCAL MUCOSE IN FOCI OF LEPROUS LESIONS IS CHARACTERIZED, AS A RULE, BY REARRANGEMENT OF CYTOPLASMIC GLYCOGEN, THE AMOUNT OF WHICH IN PROLIFERATING EPITHELIAL CELLS IS FREQUENTLY INCREASED MARKEDLY. IN THOSE CASES WHERE LEPRMATOUS FOCI OCCUR IN THE IMMEDIATE PROXIMITY TO THE EPITHELIAL LINING OR INVOLVE IT IN THE PROCESS, DESTRUCTION OF THE BASAL MEMBRANE IS OBSERVED. EPITHELIAL CELLS OFTEN UNDERGO NECROSIS, ULCERATIVE DEFECT IS FORMED, THE BOTTOM OF WHICH CONSISTS OF THE GRANULATION TISSUE.

UNCLASSIFIED

3/3 026

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124183

ABSTRACT/EXTRACT--AS LEPROUS FOCI DEVELOP, THE AMOUNT OF FIBER FORMING CELL ELEMENTS CHARACTERIZED BY INCREASED PIRONINOPHILIA OF THE CYTOPLASM INCREASES IN THEM, FIBRILLOGENESIS IS INTENSIFIED MANIFESTING IN MARKED SUBSTITUTION OF LEPROMATOUS FOCI BY THE CICATRICIAL TISSUE.
FACILITY: PATOMORFOLOGICHESKAYA LABORATORIYA TSENTRAL'NOGO N-I INSTITUTA STOMATOLOGII, MOSCOW, AND KAFEDRA TERAPEVTICHESKOY STOMATOLOGII SMOLENSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

USSR

UDC 547.242

TSENTOVSKIY, V. M., BARABANOV, V. P., KHARRASAVA, F. M., and BUSYGINA, T. A.,
Kazan' Institute of Chemical Technology imeni S. M. Kirov

"Study of Ionic Association of Onium Salts in Solutions. IV. Conductance'
of Tetraalkyl(aryl)phosphonium Halides in Acetone, Dimethylformamide and
Nitromethane"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 8, Aug 71, pp 1659-1662

Abstract: The article describes results of a study of the conductance of tetraphenylphosphonium chloride, bromide and iodide and tetrabutyl-, tetra-
anil- and tetrahexylphosphonium bromides in acetone, nitromethane and di-
methylformamide. It is shown that the association capacity of ions is deter-
mined by the nature of the hydrocarbon radical of the phosphonium cation,
as well as the nature of the anion, and is retained in the transition from
acetone to nitromethane and dimethylformamide, despite the decrease in size
of the solvated ion.

1/1

1/2 036 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--INVESTIGATION OF CAVITATION EROSION ON MODELS OF RADIAL AXIAL
HYDRAULIC TURBINES -U-
AUTHOR-(02)-BUSYREV, A.I., STARITSKIY, V.G. **B**
COUNTRY OF INFO--USSR
SOURCE--LENINGRAD, ENERGOMASHINOSTROYENIYE, NO 3, 1970, PP 36-38
DATE PUBLISHED-----70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--WATER TURBINE, HYDRAULIC MOTOR, CAVITATION, EROSION CORROSION,
TURBINE BLADE, RESEARCH FACILITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/0881 STEP NO--UR/0114/70/000/003/0036/0038
CIRC ACCESSION NO--AP0113728
UNCLASSIFIED

2/2 036

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0113723

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INCREASING THE OPERATING SPEED OF HYDRAULIC TURBINES IS TIED IN WITH INCREASING SPEEDS OF FLOW PAST THE BLADES OF THE ROTORS. A CONSEQUENCY OF THIS IS AN INCREASE IN THE INTENSITY OF CAVITATION EROSION, A DECREASE OF WHICH IS ATTAINED BY EFFICIENT DESIGNING OF THE BLADE SHAPE, FURTHER LOWERING OF THE LEVEL OF THE MACHINE, AND THE SELECTION OF CAVITATION RESISTANT MATERIALS, THE USE OF WHICH IS ECONOMICALLY JUSTIFIABLE AND TECHNOLOGICALLY PERMISSIBLE IN HYDRAULIC TURBINE CONSTRUCTION. FOR SOLVING PROBLEMS CONNECTED WITH DEFENST AGAINST CAVITATIONAL EROSION, IT IS NECESSARY, EVEN AT THE STAGE OF TECHNICAL PLAN, TO HAVE, ALONG WITH THE CAVITATIONAL CHARACTERISTICS, INFORMATION CONCERNING THE INTENSITY AND THE ZONES OF CAVITATIONAL EROSION ON THE HYDRAULIC TURBINE ROTOR. IN THE HYDRAULIC MACHINE LABORATORY OF THE LENINGRAD POLYTECHNICAL INSTITUTE, RESEARCH ON CAVITATION EROSION WAS CONDUCTED ON MODELS OF RADIAL AXIAL HYDRAULIC TURBINES. THE RESEARCH ANALYSIS AND THE RESEARCH RESULTS ARE PRESENTED IN THE ARTICLE.

UNCLASSIFIED

BUT, D. A.

INTEGRAL METHOD OF STUDYING THE TERMINAL AND BOUNDARY EFFECTS IN MAGNETOHYDRODYNAMIC CHANNELS WITH NONUNIFORM DISTRIBUTION OF THE PARAMETERS OF THE CONDUCTING LIQUID

(Abstract of a Paper by D. A. But, L. K. Kovalay, Yu. M. Nikitin, L. A. Nikitina, V. K. Izrael given at a Magneto-hydrodynamic Conference, pp 112-113)

When studying the terminal and boundary effects in magnetohydrodynamic channels, it was decided to use the kinematic approximation where the velocity of the hydrodynamic problem or from the experiment [1]. A study was made of the terminal effects for $v^* = \text{const}$ and $v^* = \text{const}$ in [1, 2], in which the solutions were obtained in the form of infinite series. The nonuniformity of v and σ can turn out to have a noticeable effect on the electrical characteristics of the magnetohydrodynamic channel. Some of the problems with the solution of the terminal and boundary effects permits consideration of the non-uniformity of the velocity and conductivity profiles and obtaining an exact solution in a broad class of problems.

The potential distribution for ϕ and the current density \vec{j} during the flow of a conducting liquid with $\sigma = \text{const}$, $R \ll 1$ and $\beta \ll 1$ are found from the equations

$$\Delta \phi = \delta n^2 / 2, \quad \int_{-1}^1 -\sigma^2 / \sqrt{1 - \sigma^2} d\sigma. \quad (1), (2)$$

The solution of equation (1) for the two-dimensional region in integral form has the form

$$\phi(x, y) = \frac{1}{2\pi} \int_{-1}^1 \int_{-1}^1 \left[\frac{\partial \phi}{\partial x} \frac{\partial \phi}{\partial y} - \frac{\partial \phi}{\partial x} \frac{\partial \phi}{\partial y} \right] dx - \frac{1}{2\pi} \int_{-1}^1 \int_{-1}^1 \frac{\partial \phi}{\partial x} \frac{\partial \phi}{\partial y} dx. \quad (3)$$

where $G(x, y)$ is the Green function.

For a number of problems the Green function can be constructed by using the conformal transforms of the given regions into canonical. This method can be used to solve the problems of the entry and exit of the conducting medium in the magnetic field in the constant-cross section and variable-cross section

SPRS-60634
A7 kbuzmBEC 199

1/2 017

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--ON THE MECHANISMS OF ACINUS VENTILATION CONTROL BY THE AIRWAYS
SMOOTH MUSCLES -U-

AUTHOR--BUT, V.I.

COUNTRY OF INFO--USSR

SOURCE--FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I. M. SECHENOVA, 1970, VOL 56,
NR 5, PP 767-770
DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RESPIRATORY PHYSIOLOGY, CRANIAL NERVE, SYMPATHETIC NERVOUS
SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3001/1603

STEP NO--UR/0239/70/056/006/0767/0770

CIRC ACCESSION NO--AP0127C94

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127094

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF AIR WAY SMOOTH MUSCLES CONTRACTION ON LUNG COMPLIANCE WAS STUDIED ON THE ISOLATED RAT'S LUNG. THIS WAS SHOWN TO CONSIST OF NEARLY TRIPLE REDUCING OF THE LUNG COMPLIANCE. THE VAGAL AND SYMPATHETIC CONTROL OF ACINUS VENTILATION WAS SUGGESTED TO OCCUR IN THE LUNG WITH AID OF AND AIRWAYS' SMOOTH MUSCLES, DECREASING THE ACINUS COMPLIANCE AND THE AIRWAY LUMEN. FACILITY: INSTITUTE FOR EXPERIMENTAL MEDICINE ACAD. MED. SCI. USSR, LENINGRAD.

UNCLASSIFIED

1/2 912 UNCLASSIFIED PROCESSING DATE--090CI70
TITLE--PREPARATION OF BASE CASTINGS FROM LOW ALLOY CAST IRON -U-
AUTHOR--(05)-SKAZHENNIK, V.A., BELYAKOV, B.P., MIROSHAICHENKO, A.I.,
BABYACHEKO, B.D., BUI, YU.G.
COUNTRY OF INFO--USSR
SOURCE--LITEINDE PROIZVOD. 1970, (1), 40 B
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--CAST IRON, TITANIUM CONTAINING ALLOY, COPPER CONTAINING ALLOY,
NICKEL CONTAINING ALLOY, CHROMIUM CONTAINING ALLOY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REFERENCE--1995/1387 STEP NO--UR/0128/70/006/001/0040/0040
CIRC ACCESSION NO--AP0116836
UNCLASSIFIED

2/2 -012

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0116836

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE IMPROVEMENT OF HARDNESS, STRUCTURE, AND DURABILITY OF CASTINGS FOR DENTAL EQUIPMENT WAS ACHIEVED THROUGH THE ADDN. OF NATURALLY ALLOYED CR-NI AND TI-CU CAST IRONS TO THE PRODUCTION FOUNDRY CAST IRON. THE OPTIMAL AMTS. WERE: CR-NI 10-12 AND TI-CU CAST IRONS 7-8PERCENT WITH RESULTING CHEM. COMPN. OF THE FOUNDRY CAST IRON: C 3.0-3.35, SI 1.4-1.7, MN 0.7-0.9, CR 0.2-0.35, CU 0.2-0.35, NI 0.1-0.25, TI 0.1-0.15, P SMALLER THAN OR EQUAL TO 0.3, AND S SMALLER THAN OR EQUAL TO 0.12 WT. PERC. TENSILE STRENGTH 26 KG-M PRIM, HARDNESS 187-0. THE MICROSTRUCTURE CONSISTED OF ONLY PEARLITE WITH INCLUSIONS OF GRAPHITE HAVING LENGTH OF 220 MU.

1/2 011 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--TANTALUM MONONITRIDE PREPARATION -U-
AUTHOR-(05)-MERZHANOV, A.G., BUTAKOV, A.A., SHEKHTMAN, V.SH.,
BOROVINSKAYA, I.P., RABINKIN, A.G.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 264,365
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI, 1970
DATE PUBLISHED--03MAR70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--TANTALUM COMPOUND, CHEMICAL PATENT, NITRIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/1444 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0126975
UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AA0126975
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CUBICALLY MODIFIED TA MONONITRIDE
IS PREPD. BY HEATING TA IN N. FACILITY: FILIAL INSTITUTA
KHIMICHESKOY FIZIKI AN SSSR.

UNCLASSIFIED

USSR

UDC 669.1:539.292

BUTAKOVA, E. D., EYSMONDT, T. D., and MALYSHEV, K. A., Institute
of Physics of Metals, Academy of Sciences USSR

"Influence of Chromium and Nickel on Martensite Conversion
During Deformation and the Mechanical Properties of Fe-Ni-Cr
Alloys"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 31, No 3,
Mar 71, pp 574-577

Abstract: In Fe-Ni and Fe-Ni-Cr alloys, a decrease in the content of nickel and
an increase in the content of chromium cause activation of the martensitic con-
version during deformation. It is assumed that activation of the conversion is
related to packing defects which develop during deformation and serve as seeds of
the martensite.

1/1

USSR

UDC 669.1:669.017.3

BUTAKOVA, E. D., and MALYSHEV, K. A., Institute of Metal Physics, UNTs
Academy of Sciences USSR

"Martensite Transformation Kinetics and Morphology in Fe-Ni and Fe-Ni-Cr
Alloys"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 33, No 2, Feb 72,
pp 353-361

Abstract: Fe-Ni and Fe-Ni-Cr alloys were investigated to determine the effect of nickel and chromium on the kinetics of martensite transformation and martensite morphology for continuous cooling under isothermal conditions. It was found that an decrease in Ni content and an increase in chromium content causes a transformation from the athermal kinetics of martensite conversion to isothermal kinetics which are accompanied by a change in the martensite morphology. A correlation was noted between the change in stacking fault energy and changes in the kinetics of martensite transformation and morphology of the martensite.

In alloys such as Fe-10Ni-15Cr and Fe-8Ni-18Cr, having a gamma-epsilon-alpha transformation, the finely crystalline alpha-martensite is situated within the crystal of the epsilon-phase, inheriting the Widmanstatten
1/2

- 73 -

USSR

BUTAKOVA, E. D., and MALYSHEV, K. A., Fizika Metallov i Metallovedeniye, Vol 33, No 2, Feb 72, pp 353-361

orientation despite the absence of the gamma-epsilon-alpha transformation in them. It is suggested that these features can be explained by the gamma-stacking fault-alpha transformation in these alloys. The authors thank P. A. MALINEN and L. A. MEL'NIKOV for assistance in conducting the tests and V. D. SADOVSKIY for his attention and counsel in completing this work. Five figures, one table, 12 bibliographic references.

2/2

USSR

UDC 669.1:539.292

BUTAKOVA, E. D., EYSMONDT, T. D., and MALYSHEV, K. A., Institute
of Physics of Metals, Academy of Sciences USSR

"Influence of Chromium and Nickel on Martensite Conversion
During Deformation and the Mechanical Properties of Fe-Ni-Cr
Alloys"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 31, No 3,
Mar 71, pp 574-577

Abstract: In Fe-Ni and Fe-Ni-Cr alloys, a decrease in the content of nickel and an increase in the content of chromium cause activation of the martensitic conversion during deformation. It is assumed that activation of the conversion is related to packing defects which develop during deformation and serve as seeds of the martensite.

1/1

USSR

B
UDC 669.112.227.1

MALYSHEV, K. A., and ~~BUTAKOVA~~, E. D., Institute of Metal Physics, Academy of Sciences USSR

"Magnetometric Study of Stabilization of Austenite in Alloys"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 30, No 3, Sep 70, pp 602-605

Abstract: The phase hardening occurring in Fe-Ni-Cr with high M_s point arising as a result of the martensite conversion $\gamma \rightarrow \alpha \rightarrow \gamma$ and plastic deformation stabilize austenite. In this case, the athermal martensite conversion is replaced by an isothermal conversion. It is assumed that the change in the nature of the martensite conversion results from the presence of chromium.

1/1

1/2 032 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--SCINTILLATION DEFECTOSCOPE PROVIDING A SHADOW CONTRAST IMAGE ON A
CRT SCREEN -U-
AUTHOR--(03)-POKROVSKIY, A.V., BUTAKOVA, G.YE, IVANCHENKO, YU.P.
COUNTRY OF INFO--USSR
SOURCE--SVERDLOVSK, DEFECTOSKOPIYA, NO. 1, 1970, PP 130-132
DATE PUBLISHED-----70
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., METHODS AND EQUIPMENT
TOPIC TAGS--NONDESTRUCTIVE TEST, COBALT, ISOTOPE, CATHODE RAY TUBE,
PHYSICS LABORATORY INSTRUMENT, STEEL/(U)FEU6 PHOTOELECTRIC MULTIPLIER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1985/0124 STEP NO--UR/0381/70/000/001/0130/0132
CIRC ACCESSION NO--AP0100660
UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100660

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS ASSERT THAT INDUSTRY HAS RECENTLY BEEN MAKING INTENSIVE USE OF DEFECTOSCOPES WITH SCINTILLATION RADIATION SENSORS WHICH CAN PROVIDE A SENSITIVITY FOR STEEL OF UP TO 0.2 TO 0.5PERCENT UNDER IRRADIATION BY THE CO-60 ISOTOPE. HOWEVER, WITH SUCH EQUIPMENT IT IS DIFFICULT TO INTERPRET THE CONTROL RESULT AND RECOGNIZE THE NATURE OF THE DEFECT. CONSEQUENTLY, THIS METHOD SUFFERS IN COMPARISON WITH THAT OF RADIOGRAPHY. ATTEMPTS HAVE BEEN MADE TO CORRECT THIS DEFECT, BUT HAVE FAILED TO GIVE THE SAME HIGH SENSITIVITY DUE TO POOR INDICATOR EQUIPMENT. THIS PAPER GIVES THE FIRST RESULTS OBTAINED IN TESTS OF A DEFECTSCOPE CONTAINING A SCANNED RADIATION SENSOR AND A CATHODE RAY TUBE AS INDICATOR. THE RESULTS SHOW THAT THE SYSTEM TESTED IS A SUPERIOR INSTRUMENT WITH BETTER SENSITIVITY AND RESOLUTION THAN THE OTHERS. A BLOCK DIAGRAM OF THE EXPERIMENTAL EQUIPMENT IS GIVEN, IN WHICH THE RADIATION SOURCE IS CS 137, AND THE DETECTOR IS A CRYSTAL MEASURING 20 BY 30 MM AND A PHOTOELECTRIC MULTIPLIER FEU-16.

UNCLASSIFIED

USSR

UDC: 621.374

B
ZABOLOTSKIY, YE. D., BUTAKOVA, N. V.

"A Pulse Widener"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 5, 1970, p 39, patent No 261458, filed 9 Aug 68

Abstract: This Author's Certificate introduces a pulse widener which contains a quartz oscillator, control unit and comparison circuit. As a distinguishing feature of the patent, the precision and stability of the pulse widening coefficient are improved by incorporating into the device an irreversible binary counter with the input connected to the control unit and the output connected to the comparison circuit which shapes the widened pulses.

1/1

USSR

UDC 621.372.822:621.372.831

BUTAKOVA, S. V.

"Calculation of N-Planes Step Connection of Rectangular Wave Guides"

Moscow, Antenny, No 13, 1971, pp 56-70

Abstract: Devices with discontinuities in rectangular waveguides are widely used in ultra high frequency technology. The dispersion quasioperator method has been proposed for calculation of these devices. The block diagram of the computer program for the above calculations and the numerical results are given.

It is shown that the balance of active power in the waveguide devices must be fulfilled for any number of wave types occurring in the waveguides between the discontinuities.

It is concluded that highly accurate results can be obtained by applying computers to the quasioperator method of calculating waveguides with discontinuities.

1/1

- 212 -

USSR

UDC: 621.372.822

B
BUTAKOVA, S. V.

"Peculiarities in Computer Calculation of the Scattering Matrix for Branching of Rectangular Waveguides in the H-Plane"

V sb. Antenny (Antennas--collection of works), Vyp. 8, Moscow, "Svyaz'", 1970, pp 47-64 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7B106)

Translation: A program is discussed for numerical computer realization of formulas for the elements of the scattering matrix for mechanical coupling of a wide rectangular waveguide with two narrow waveguides separated by an infinitely thin wall for any final values of waveguide width, operating frequency and numbers m of natural waves type H_{m0} . Computational data obtained on the M-20 and M-220 computers are given. Eleven illustrations, bibliography of nine titles. Resumé.

1/1

USSR

UDC 621.396.677.73

BUTAKOVA, S. V., GOROBETS, N. N., LYAKHOVSKIY, A. F.

"Range Characteristics of a Horn Antenna with Circular Polarization Based on a Three-Decibel Slot Waveguide Bridge"

Antenno-fidern. i izmerit. ustroystva svedkhvysok. chastot -- V sb. (Superhigh Frequency Antenna Feeder and Measuring Devices -- Collection of Works), Khar'kov, Khar'kov University, 1971, pp 22-29 (from RZh-Radiotekhnika, No 10, Oct 71, Abstract No 10B55)

Translation: The results of calculating the parameters of a three-decibel slot waveguide bridge with a common narrow wall in a broad frequency range on the M-20 computer are presented. A nomogram is given for determining the geometric dimensions of the coupling range of the slot waveguide bridge insuring equal division of the power in the output arms at the given wave length with respect to one of the dimensions (length or width) of the coupling range. The frequency dependencies of the ellipticity factor and the angle of orientation of the polarization ellipse at the main radiation peak of the horn antenna with circular polarization executed on the basis of a three decibel slot waveguide bridge are presented. It is demonstrated that the ellipticity factor of the antenna

1/2

USSR

BUTAKOVA, S. V., et al., Antenno-fidern. i izmerit. ustroystva sverdkhvysoy. chastot, Khar'kov, Khar'kov University, 1971, pp 22-29

remains high in a broad frequency range. The antenna efficiency also remains high ($\approx 98\%$) in the wavelength range of 25-40 cm. There are 7 illustrations and a 6-entry bibliography.

2/2

- 175 -

Ion Exchange

USSR

UDC 678.183.123

TULUPOV, P. Ye., BUTAYEV, A. M., GREBEN', V. P., and KASPEROVICH, A. I.,
Scientific Physical-Chemical Research Institute Imeni L. Ya. Karpov, Moscow

"Kinetics of Elimination of the Ion Exchange-Resin Functional Groups. IX.
Reversibility of the Reaction of Hydrolytic Cleavage of the Sulfonyl Group
of KU-2 Cation Exchange Resin"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 47, No 1, Jan 73, pp 150-153

Abstract: The behavior of the cation exchange resin KU-2 X 8 on heating in
a wide range of the concentrations of sulfuric acid solutions was studied.
It was shown that thermal hydrolysis of KU-2 sulfonyl groups is complicated
by sulfation. Kinetic equations were obtained which described the changes
in the exchange capacity of the cation exchange resin with two concurrent
reactions taking place: hydrolysis of sulfonyl groups and sulfation of
the cation exchange resin matrix.

1/1

Acc. Nr.:

AT0046536

Ref. Code: U13C146

USSR

UDC 621.374.44

BUTAYEV, G.M.

"Digital Pulse Train Frequency Multiplier"

Tsifrovoy umnozhitel' chastoty potoka impul'sov (cf. English above), Leningrad, Izvestiya Vysshikh Uchebnykh Zavedeniy, Priborostroyeniye, 1970, No 1, pp 68-71

Translation:

A universal pulse frequency multiplier circuit using standard triggers is described. The circuit provides a frequency multiplication function with variable transmission coefficient.

Reel/Frame

19781797

BUTENIN, A.V.

MECHANISM OF OPTICAL BREAKDOWN OF
TRANSPARENT DIELECTRICS

A.V. Butenin and G.Ya. Koren

Kvantovaya elektronika, 5 (1971) 143-144
(from Russian)

ORIC Transl. No. 2823 July 1972

Translated by Mrs. E.H. Kurch

BR 30194

Epidemiology

USSR

UDC 616.988-002.151-036.2(470.61)

PERELATOV, V. D., VOSTOKOVA, K. K., BUTENKO, A. M., and DONETS, M. A., Rostov Scientific Research Institute of Medical Parasitology, Ministry of Health RSFSR; Institute of Poliomyelitis and Virus Encephalitis, Academy of Medical Sciences USSR

"Epidemiology of Crimean Hemorrhagic Fever. II. Characteristics of the Epidemiology of Crimean Hemorrhagic Fever in Belokalitvenskiy Rayon of Rostov Oblast'"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 41, No 6, Nov/Dec 72, pp 718-724

Abstract: A study carried out in 1970-71 in Belokalitvenskiy Rayon of Rostov Oblast' indicated a sporadic occurrence of human infections with Crimean hemorrhagic fever. The maximum incidence (80 cases) was observed in May 1971. Maintenance of a source of infection was associated with the grazing of cattle on wooded land; antibodies to the virus were present only in the blood of cattle that were driven out regularly to forested pastures. Strains of the virus were isolated from *Rhipicephalus rossicus* (the predominant Ixodid species) and *Dermacentor marginatus* ticks collected from cattle and hedgehogs in wooded regions. Hares inhabiting steppe regions and fields also functioned as hosts
1/2

USSR

PERELATOV, V. D., et al., Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 41, No 6, Nov/Dec 72, pp 718-724

of infected ticks, but their importance as a source of transmission of the disease was less than that of forest-inhabiting small rodents. The majority of patients had been attacked by ticks in forests, shelter belts, and gardens. Milkmaids were infected during the milking of cows in forests or as a result of contact with cows that had been 1-1.5 hrs earlier in forests -- after expiration of this time, the ticks were firmly attached to the cows.

2/2

- 9 -

USSR

UDC 541.6:547.26'118

REMIZOV, A. B., KURAMSHIN, I. YA., AGANOV, A. V., and BUTENKO, G. G., Kazan State University imeni V. I. Ul'yanov-Lenin

"Rotational Isomerism and Internal Rotation About the P-O, the P-S, and the P-C Bond in $\text{CH}_3\text{XP}(=\text{Y})(\text{CH}_3)_2$ and $\text{CH SP}(=\text{Y})(\text{C}_2\text{H}_5)_2$ for (X, Y = O, S)"

Moscow, Doklady Akademii Nauk SSSR, Vol 208, No 5, 1973, pp 1118-1120

Abstract: IR and NMR spectra and dipole moments were used to study the influence of the groups attached to the P atom on the nature of the internal rotation around the P-X bond. IR spectra are shown for the title compound in the gaseous, liquid, and solid phases and in nonpolar and polar solutions. A study of the temperature effect showed that O-methyl dimethylphosphinate and its thione and thiol analogs remain predominately in one configuration. A variety of constants are given for the studied compounds.

1/1

1/2 014 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--EFFECT OF GIBBERELIC AND INDOLEACETIC ACIDS ON PLANT MALATE
DEHYDROGENASE ACTIVITY -O-
AUTHOR-(03)-KRETOVICH, V.L., SEVERNAYA, T.A., BUTENKO, R.G.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(2), 474-5
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--GIBBERELIC ACID, INDOLE DERIVATIVE, PLANT PHYSIOLOGY,
DEHYDROGENASE, ENZYME ACTIVITY, INHIBITION
CENTREL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY KEEL/FRAE--3003/1475 STEP NO--UR/C020/70/191/002/0474/0475
CIRC ACCESSION NO--AT0130404
UNCLASSIFIED

Mechanical Properties

USSR

UDC 621.785:621.9-462

POZENYAKOV, L. G., GENZULYA, A. P., DEMENT'YEVA, ZH. A., ATAMENKO, V. A.,
PAVLOVTSEVA, N. M., and BUTENKO, V. F.

"Investigation of the Effect of Single- and Double-Sided Cooling in Temper
Hardening of Pipes on Their Mechanical Properties"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 5, Sep-
Oct 70, pp 38-40

Abstract: A study was made to determine the effect on mechanical properties
of single- and double-sided cooling in temper hardening of low-carbon steel
pipes intended for use in pipe lines in the Extreme North. Tempering of low-
carbon 14KhGS steel sheets 11 mm thick was done at 900°C in a water tank
(double-sided cooling) and under spraying (single-sided cooling), simulating
cooling conditions in service, followed by annealing at 600°C for 1 hour.
Tests were also conducted on pipes 1020 mm in diameter with an 11 mm wall thick-
ness. The experiment procedure and equipment are described and the variation
of mechanical and physical properties across the sheet thickness is shown.
The structure obtained after tempering with single- and double-sided cooling

1/2

2/2 C14

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AT0130404

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INDOLE, 3, ACETIC ACID AT 10 PRIME
NEGATIVE3-10 PRIME NEGATIVE6 M INHIBITED MALIC DEHYDROGENASE FROM CORN
ROOTS AND FROM BOTH NATURAL AND CULTURED TOBACCO ROOTS. INDOLE, 3, ACETIC ACID
VIA

"APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R002200520002-8"

BIOKHM. IM. BAKHA. MOSCOW, USSR.

FACILITY: INST.

UNCLASSIFIED

USSR

POZENYAKOV, L. G., et al, Metallurgicheskaya i Gornorudnaya Promyshlennost',
No 5, Sep-Oct 70, pp 38-40

was found to be the same. The authors recommend single-sided cooling, which appears to be more suitable for tempering large-diameter pipes, with wall thickness up to 12 mm made of low-carbon 14KhGS and 17GS steels.

2/2

USSR

UDC: 621.373.531(088.8)

~~BLITENKO, V. I.~~, YEROFEYEV, Yu. I.

"A Relaxation Oscillator"

USSR Author's Certificate No 253129, filed 24 Jan 67 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11G178 P)

Translation: This Author's Certificate introduces a relaxation oscillator which contains a tunnel diode flip-flop, a transistor stage and a thyristor with a time-mark capacitor connected between the cathode and anode. To reduce the recovery time of the oscillator, the thyristor is connected on the cathode side through a resistor to the collector of the transistor and on the anode side to the positive terminal of the power supply, while the control electrode is connected through a series RC circuit to the anode of the tunnel diode and to a voltage divider.

1/1

USSR

UDC 669.017:539.216.2:535.338.41

BUTIKOV, YE. I., KONDRAT'YEV, A. S., and KUCHMA, A. YE., Leningrad State University imeni A. A. Zhdanov

"Collective Excitations in Thin Metallic Films"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 36, No 3, 1973, pp 485-492

Abstract: The spectrum of collective excitations of electrons in thin metallic films was investigated where there was a substantially different quantization of carrier movement. It was shown that the diagonal for the indices of the electron states in a film is only a equilibrium function of electron distribution and as such single-electron wave functions, corresponding to the movement of electrons in a self-congruent field, were selected as a basis for determining the dispersion law for collective excitations associated with spin function excitations and distribution. Starting with equations for Green functions, the authors develop and use mathematical expressions to arrive at a final expression for the dispersion law. Ten bibliographic references.

1/1

- 43 -

USSR

UDC: None

BUTIKOV, Ye. I., KONDRAT'YEV, A. S., and KUCHMA, A. Ye.

"Thermodynamics of an Electronic Gas in Crossed Fields"

Leningrad, Fizika Tverdogo Tela, Vol. 13, No 10, October 1971, pp 3094-3095

Abstract: This article presents the results of a computation of the thermodynamic characteristics of an electron gas in semiconductors in crossed constant and uniform electric and magnetic fields. The problem discussed here concerns thin-film semiconductor specimens and is similar to an earlier article dealing with massive specimens, published in the same journal (A. G. Aronov and G. Ye. Pikus, 6, 1964, p 506). In a thin film of this type, whose thickness does not exceed the Debye screening radius, an electric field can penetrate even in the absence of a current, whereas the presence of such a current is required in the massive specimen for penetration of the field into the specimen volume to occur. For the sake of simplicity, a single-component system whose electrical neutrality is insured is considered. The analysis shows that the electric field reduces the magnitudes of the oscillation peaks and shifts them in the direction of the lesser magnetic field values. The formulas derived are valid for strong fields. The authors are connected with the Leningrad State University imeni A. A. Zhdanov.

1/1

- END -

1/2 025 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--CRYSTAL STRUCTURE OF A LOW TEMPERATURE FORM OF SAMARIUM
PYROSILICATE SM SUB2 SI SUB2 O SUB7 -U-
AUTHOR--(03)-SMOLIN, YU.I., SHEPELEV, YU.F., BUTIKOVA, I.K.
COUNTRY OF INFO--USSR
SOURCE--KRISTALLOGRAFIYA 1970, 15(2), 256-61
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--CRYSTAL STRUCTURE, SAMARIUM COMPOUND, SINGLE CRYSTAL, CRYSTAL
GROWING, SILICON COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1995/0898 STEP NO--UR/0070/70/015/002/0256/0261
CIRC ACCESSION NO--AP0116408
UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0116408
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRUCTURE OF SM SUB2 SI SUB2 O
SUB7 WAS DETD. FOR SINGLE CRYSTALS PREPD. BY CRYSTN. FROM A MELT IN A BI
SUB2 G SUB3 SOLN. THE CRYSTALS HAVE TETRAGONAL SYMMETRY, SPACE GROUP P4
SUB1, AND THE LATTICE PARAMETERS ARE A 6.695 PLUS OR MINUS 0.005 AND C
24.40 PLUS OR MINUS 0.02 ANGSTROM. 1420 REFLECTIONS WERE MEASURED WITH
A DIFFRACTOMETER WITH A SCINTILLATING COUNTER, AND THE STRUCTURE WAS
REFINED BY THE LEAST SQUARES METHOD TO A VALUE OF R EQUALS 0.044. THE
AT. COORDINATES AND THE INTERAT. DISTANCES ARE GIVEN, AND THE STRUCTURE
IS DESCRIBED. FACILITY: INST. KHIM. SILIKAT., LENINGRAD, USSR.

UNCLASSIFIED

Acc. Nr:

AP0101481

Abstracting Service:

CHEMICAL ABST. 6-70

Ref. Code:

4R 0079

121661m Activation of mercury by nucleophilic reagents. Direct synthesis of organomercury compounds from mercury and alkyl(aryl)halides. Vol'pin, M. E.; Tevdoradze, E. A.; Butin, K. P. (USSR). *Zh. Obshch. Khim.* 1970, 40(2), 315-18 (Russ). Anions such as I^- , CNS^- , $S_2O_3^{2-}$, and Br^- activate Hg in reaction with alkyl or aryl halides and a synthesis of organomercury compds. was developed on this basis. Shaking 3.68 g BuI and 20.1 g Hg in dry EtOH 8 hr gave 4% BuHgI, m. 115-17°. $PhCH_2Cl$, Hg, and NaI in EtOH 8 hr gave $(PhCH_2)_2Hg$, 55% $PhCH_2HgCl$, m. 102-4°, and $PhCH_2HgI$, sepd. by extrn. with $CHCl_3$. $p-O_2NC_6H_4CH_2Br$ and Hg with NaI in EtOH 60 hr gave $p-O_2NC_6H_4CH_2HgBr$ and the corresponding iodide. Shaking 2.04 g PhI , 20.1 g Hg, 3.72 g NaI, and 60 ml dry EtOH gave 6% $PhHgI$. The following yields of organomercury compds. were formed in the reaction of BuI with Hg in EtOH with the indicated activators: NaCl 0, NaBr 1.5, NaI 4, $KCNS$ 6, $Na_2S_2O_3$ 10; and Na_2S 2.5%; in diglyme with NaI the yield was 11% and in $(MeOCH_2)_2$ it was 8.6%. G. M. Kosolapoff

REEL/FRAME
19851387

1/2 013 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--RADICAL EXCHANGE REACTIONS BETWEEN ORGANOMERCURY COMPOUNDS -U-
AUTHOR-(04)-BELETSKAYA, I.P., BUTIN, K.P., SHISHKIN, V.N., REUTOV, O.A.
COUNTRY OF INFO--USSR
SOURCE--J. ORGANOMETAL. CHEM. 1970, 23(1), 31-7.
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--EXCHANGE REACTION, ORGANOMERCURY COMPOUND, NITRILE,
CHLORINATED ORGANIC COMPOUND, CHEMICAL REACTION RATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/2112

STEP NO--NE/0000/70/023/001/0031/0039

CIRC ACCESSION NO--AP0125656

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0125696

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. REACTIONS OF PH SUB2 HG WITH R SUB2 HG (WHERE R EQUALS CN, CCL SUB3, C TRIPLE BOND CPH) IN DMF (STUDIED BY A POLAROGRAPHIC METHOD) GAVE PHHGR, OBEYING SECOND ORDER KINETICS. ADDN. OF IODIDE HAS NEGLIGIBLE EFFECT ON THE REACTION RATES. WHEN R EQUALS CFCLCC SUB2 ET, CF SUB2 CO SUB2 ET, CH SUB2 CO SUB2 ME, OR PHCH SUB2 THE REACTION OF PH SUB2 HG WITH R SUB2 HG DOES NOT OCCUR. P,OME GROUPS IN THE DIPHENYLMERCURY INCREASE THE REACTION RATES. THE RESULTS OBTAINED ARE DISCUSSED IN TERMS OF AN S₂ SUBE 2 MECHANISM. FACILITY: DEP. CHEM., MOSCOW STATE UNIV., MOSCOW, USSR.

UNCLASSIFIED

USSR

BUTINA, M. A.

"The Minimum Number of Factors in a Model of Factor Analysis"

Ekonomika i mat. metody [Economics and Mathematical Methods], 1973, 9, No 2, pp 354-357 (Translated from *Referativnyy Zhurnal - Kibernetika*, No 8, 1972, Abstract No 8 V199 by O. Staroverov)

Translation: For a model of factor analysis

$$z = AF + b'U,$$

where x is an n -dimensional vector column of observations, F is an l -dimensional vector-column of summarizing factors (F_i are independent random quantities and $F_i \sim N(0,1)$), U is an n -dimensional vector column of individual factors, A is a matrix of loads, b' is an n -dimensional vector row, the author presents two theorems concerning the number of general factors l , fully explaining the form of the correlation matrix of vector z .

Abstractor's note: This same problem was studied in more detail in (*RZHM*at 1958, 4950).

1/1

- 28 -

1/2 007 UNCLASSIFIED PROCESSING DATE--11SEP79
TITLE--UNIFORMITY OF A SINTER CHARGE -U-
AUTHOR--KOROTICH, V.I., BUTIVCHENKO, V.N., KOMORNIKOV, G.I., STARIKOV,
M.A.
COUNTRY OF INFO--USSR
SOURCE--STAL' 1970, 30(1), 1-7 B
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--SINTER, IRON ORE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1987/0143 STEP NO--UR/0133/70/030/001/0001/0007
CIRC ACCESSION NO--AP0103822
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0103822

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM THE MICRONON UNIFORMITY STANDPOINT, AN IDEALLY MIXED SINTERING CHARGE CAN BE CONCEIVED AS A NO. OF ADJOINING ELEMENTARY CELLS, FOR EXAMPLE CUBES, THE EDGE OF WHICH IS EQUAL TO THE DISTANCE L BETWEEN NEIGHBORING SIMILAR PARTICLES HAVING DIAM. A. THIS DISTANCE IS GIVEN AS L EQUALS $A/P \times 10^{\text{PRIME}7-\text{GAMMA}}$ $A/P \times \text{PRIME}0.5$ WHERE P IS D., GAMMA IS CHARGE D., A IS THE PERCENTAGE OF A GIVEN COMPONENT, AND F IS THE PERCENTAGE OF A GIVEN FRACTION OF THE COMPONENT. THIS DISTANCE VARIES LARGELY AS A FUNCTION OF PARTICLE SIZE, THUS DEFINING THE CELL REQUIRED FOR THEORETICAL NONUNIFORMITY, WHICH IS NONUNIFORMITY IN THE CASE OF IDEALLY UNIFORM DISTRIBUTION OF SEP. PARTS IN A VOL. OF CHARGE. EXAMPLES OF DIMENSIONS OF THESE CELLS FOR DIFFERENT SIZES OF VARIOUS MATERIALS OF A SINTERING CHARGE ARE GIVEN. ACTUALLY THEY HAVE TO BE MARKEDLY INCREASED, ON ACCOUNT OF INADEQUATE MIXING, TO PROVIDE SUFFICIENT SAMPLES. THE NO. OF SAMPLES OF THIS SIZE NEEDED TO PROVIDE THE AV. COMPN. DECREASES WITH THEIR LARGE VOL.; FOR THE CONDITIONS DESCRIBED, 30-50-CM $\text{PRIME}3$ SAMPLES ARE SUFFICIENT. MACRONONUNIFORMITY IS A FUNCTION OF MIXING, WHICH REDUCES IT WITHOUT ELIMINATING IT.

UNCLASSIFIED

USSR

UDC 621.396.67.001.5

BELDOVSKIY, V. A., VINGRADOV, B. A., VAN'KIN, A. S., ZVEREV, S. B.,
BUTKEVICH, A. O., MURAV'YEV, Yu. K.

"A Method of Plotting the Radiation Patterns of Antennas"

USSR Author's Certificate No 284070, filed 10 Apr 69, published 4 Jan 71
(from RZh-Radiotekhnika, No 11, Nov 71, Abstract No 11B112 P)

Translation: The proposed method enables automatic recording of a radiation pattern in 10-20 s on a CRT with image persistence and photographing in case of necessity. The antenna to be studied is mounted on a rotating platform and used as a receiving antenna. The emf from the antenna is sent to the receiver with linear amplification of the range to be studied. The output voltage of the receiver is sent through a current collector to the input of a discrete conversion module which generates a sequence of pulses which are delayed with respect to the trigger pulse. This pulse train is then sent to the electrode of a CRT with circular scan. Scanning of the CRT is triggered by pulses with a prf which ensures the accuracy required in reproduction of the radiation pattern. When the scan

1/2

= 6 =

USSR

BELDOVSKIY, V. A., et al., USSR Author's Certificate No 284070, filed 10 Apr 69, published 4 Jan 71 (from RZh-Radiotekhnika, No 11, Nov 71, Abstract No 11B112 P)

rotation is synchronized with antenna rotation by means of a primary pickup circuit and an amplifier for the signal from the drive tracking system, the radiation pattern is reproduced on the screen of the CRT with a high accuracy determined by the linearity of the image stages. A calibrated mark unit shapes marking pulses for every five degrees of rotation of the antenna, and for controllable intervals with respect to field strength. The method appreciably simplifies the process of taking the radiation patterns of antennas; it can be used in synthesizing an antenna, and also in determining the optimum arrangement of transmitting and reception units for zones with a minimum noise level. Two illustrations.

A. K.

2/2

AA0040649- Butkevich, V.A. UR 0482 3/70

Soviet Inventions Illustrated, Section I Chemical, Derwent,

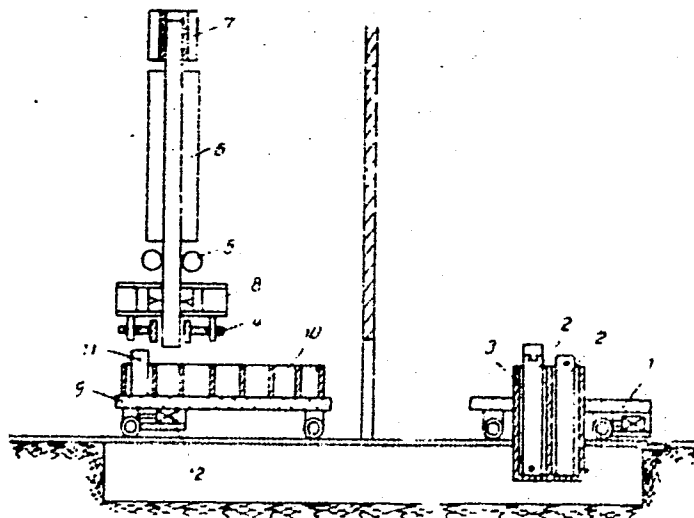
233848 VERTICALLY SHEARED CONTINUOUS CAST INGOTS

are transferred in this position for further treatment at low cost in terms of equipment involved. A carriage 1 with dummy bar 2 verticalised in the basket 3 are fed in under the casting engine and the bar gripped 4 and thrust into the withdrawal rolls 5 and so into the mould 7. Once the mould is full, the rolls draw the dummy downwards: this is sheared 8, lowered onto the trolley and carried out clear of the casting engine. Now the platform 9 with its vertically disposed cells 10 is run in under the engine and the shears crop the ingot 11 (of set length as programmed) and this is lowered gast into its cell. The platform now inches 12 on to bring the next cell into the teeming position and so on.

30.11.63. as 868253/22-2. BUTKEVICH, V.A. and FAINVEITS, Ya.I. Metallurgical Plant Design Inst. (26.6 69.) Bul.3/24.12.68. Class 31c. Int.Cl. B22d.

1/3
18
19750230

AA0040649



2/3

20

19750231

AA0040649

AUTHORS: Butkevich, V. A. and Faynveyts, Ya. I.

Gosudarstvennyy Soyuznyy Institut po Proyektirovaniyu
Metallurgicheskikh Zavodov

19750232

3/3

AA0044743

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

240210 SECONDARY COOLING ADJUSTER FOR CONTINUOUS CASTING PLANT comprises a nut (1) screwing on to the rod thread and acting as a limit for the cylinder rod (2) so as to adjust the cooling sections to the size of the billet being cast. The drive (8) is actuated from a remote console: chain drives (7) and sprockets (6) actuate the sleeves (3) and they in turn rotate the nuts (1); these screw synchronously along their rods and are stopped when in position. The rods are then actuated until the nuts strike the flanges (5) or cylinder heads and thus strictly locate the cooling surfaces.

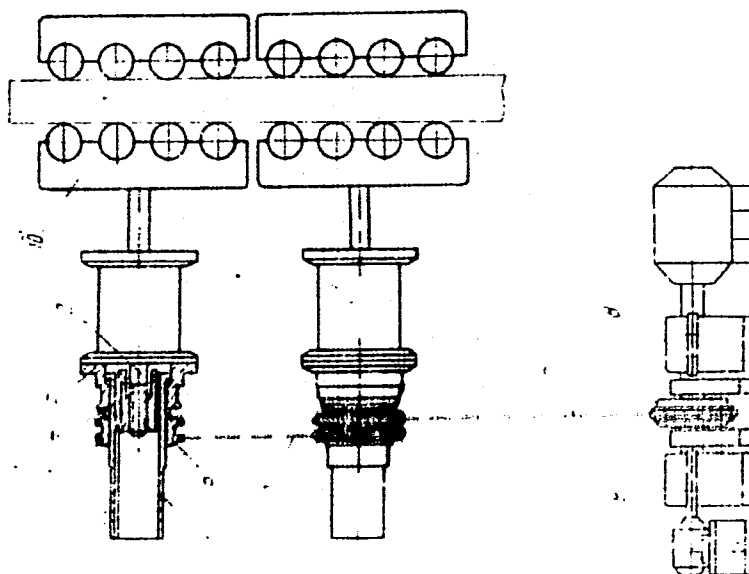
15.8.63 as 852273/22-2. BUTKEVICH, V.A. et al. METALLURGICAL PLANT. (18.8.69) BUT 12721.3.69. Class 31c. Int.Cl.B 22d.

1/3

18

19771497

AA0044743



19771498

AA0044743

AUTHOR: Butkevich, V. A.; Yevteyev, D. P.; Karpeka, V. A.; Pravdin, V. S.;
Fisyun, A. K.

Gosudarstvenny Soyuznyy Institut po Proyektirovaniyu Metallurgicheskikh Zavodov

19771499

2/12

1/2 020 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--ELECTROLUMINESCENCE SPECTRA OF LEAD SULFIDE THIN FILMS -U-

AUTHOR--(02)-BUTKEVICH, V.G., DROZD, I.A.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. PCLUPROV. 1970, 4(3), 625-6

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--ELECTROLUMINESCENCE, LEAD SULFIDE, PHOTSENSITIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1995/0892

STEP NO--UR/0449/70/004/003/0625/0626

CIRC ACCESSION NO--AP0116402

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0116402

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ELECTROLUMINESCENCE SPECTRUM OF A PBS FILM AT 190DEGREESK IS IDENTICAL TO THE PHOTOLUMINESCENCE. THE INTENSITY OF ELECTROLUMINESCENT RADIATION (Φ) DEPENDS ON THE INTENSITY OF THE ELEC. FIELD (E) IN THE FOLLOWING WAY: Φ EQUALS $A \exp(\beta E)$ WHERE β APPROXIMATELY EQUAL TO 0.8 TIMES 10 PRIME NEGATIVE3 CM-V. ELECTROLUMINESCENCE IS VITALLY CONNECTED WITH A NONLINEAR V-A RELATION IN PBS. THE PHOTOSENSITIVITY AND PHOTORESISTIVITY OF PBS PREPD. BY PPTN. IS LINEAR UP TO FIELDS OF 10 PRIME4 V-CM WHEREAS PBS FORMED BY DUSTING IN A VACUUM HAS DIFFERENT PROPERTIES. THE DIFFERENCE IS ATTRIBUTED TO THE PRESENCE OF LOCALIZED STRONG FIELDS BETWEEN CRYSTAL LAYERS. THE COND. OF SUCH LAYERS IS SIGNIFICANTLY LOWER THAN THE CONDUCTIVITY OF GRAINS.

UNCLASSIFIED

USSR

UDC: 534.22;541.8

MIKHAYLENKO, S. A., BLAGOY, Yu. P., and BUTKO, A. Ye.

"Speed of Sound in Liquefied Gas Solutions"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, No 2, 1973, pp 184-189

Abstract: This article is the fifth of a series under the general title given above; the title of this installment is "Systems Containing a Component of Molecules ($C_3H_6-CH_4$, C_3H_6-Kr) Without Spherical Symmetry." The four earlier installments investigated liquid solutions and obtained expressions for changes in their thermodynamic characteristics, including the speed of sound. In the present paper, the authors investigate methane-propylene and krypton-propylene systems in which the purity of the krypton was 99.92%; of methane, 99.95%; and of the propylene, 99.81%. Results of the measurements for the speed of sound as a function of the temperature for these solutions are given in tabular form, and curves are plotted for the speed of sound as a function of the solution concentration for comparison with similar curves for ideal solutions. The authors regret that in the absence of a satisfactory theory, they cannot explain the phenomena they observed in terms of the liquid's structure and its changes in solution.

1/1

1/2 023 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--SOUND VELOCITY IN LIQUEFIED GAS SOLUTIONS. III. ADIABATIC AND
ISOTHERMAL COMPRESSIBILITIES OF THE ARGON KRYPTON SYSTEM -U-
AUTHOR-(04)-OUTKO, A.YE., MIKHAYLENKO, S.A., BLAGOY, YU.P., SOROKIN, V.A.
COUNTRY OF INFO--USSR **B**
SOURCE--UKR. FIZ. ZH. (RUSS ED.) 1970, 15(4), 563-70 (RUSS)
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, PHYSICS
TOPIC TAGS--ARGON, KRYPTON, SOUND TRANSMISSION, ULTRASONIC VELOCITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3C07/0139 STEP NO--UR/0185/70/015/004/0563/0570
CIRC ACCESSION NO--AP0135636

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0135636

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COEFF. OF ADIABATIC COMPRESSIBILITY AND THE SPEED OF SOUND (V) IN THE SYSTEM AR,KR INDICATED A STRONG DEVIATION OF THIS SYSTEM FROM IDEAL BEHAVIOR. ASSUMING IDEAL BEHAVIOR, THE DEPENDENCE OF V ON THE COMPN. OF THE LIQS. SHOULD HAVE A MIN. AT MOLE RATIO OF KR EQUALS 0.6 AT 120-40 DEGREES K. CURVES BASED ON THE EXPTL. DATA ARE QUAL. DIFFERENT AND SHOW A STEADY INCREASE OF V WITH INCREASING AMTS. OF KR IN THE MIXTS. FACILITY: FIZ. TEKH. INST. NIZKIKH TEMP., KHARKOV, USSR.

UNCLASSIFIED

USSR

MIKHAYLOVA- LUKASHEVA, V. D., Izvestiya Akademii Nauk ESSR, Seriya Biologicheskikh Nauk, No 6, 1972, pp 87-92

turn leads to a decrease in the central control, to changes in relations between the nervous centers and periphery, and to disturbances in regulation of all systems of the organism. These disturbances in functional systems result in faster wearing out of the organism, i.e., aging.

2/2

- 18 -

USSR
BUT'KO, V. S., POGODAYEV, F. G.

UDC 532.5:621.22

"On the Dynamic Stability of Overload Valves Considering Inertial Forces of the Flow"

Gidroprivod i gidropnevmoavtomatika. Resp. mezhved. nauch.-tekhn. sb. (Hydraulic Drives and Hydropneumoautomation. Republic Interdepartmental Scientific-Technical Collection), 1971, No. 7, pp 112-118 (from RZh-Mekhanika, No 12, Dec 71, Abstract No 12B1000)

Translation: A fourth order differential equation is analyzed that approximately describes the process of the oscillations in pressure in valve devices considering non-steady-state hydrodynamic forces. A condition is obtained which if observed will make it possible not to take into account the inertia head, which considerably simplifies the mathematical analysis. To determine the effect of nonlinear terms, a modeling of transfer processes is carried out on an analog computer and an experimental study was conducted. Authors' abstract.

1/1

1/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--INITIATED DECARBOXYLATION OF MERCURY SALTS OF CYCLOHEXANE AND
CYCLOPENTANECARBOXYLIC ACIDS. SYNTHESIS OF CYCLOHEXYL AND
AUTHOR--(03)-OLDEKOP, YU.A., MAYER, N.A., BUTKO, YU.D.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 641-4

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANOMERCURY COMPOUND, CYCLOHEXANE, CYCLOPENTANE, CARBOXYLIC
ACID, ORGANIC SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/0927

STEP NO--UR/0079/70/040/003/0641/0644

CIRC ACCESSION NO--AP0124588

UNCLASSIFIED

1/2 030 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--OIL EMULSION COOLANTS FOR ENGINES -U-

AUTHOR--(05)--BUTKOV, N.A., OSIPOVA, L.M., VOLKOV, A.S., DRESKOV, A.A.,
RGZHIN, V.P.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,585
REFERENCE--UTKRYTIYA, IZOBRET., PROM. GBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--03MAR70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, PROPULSION AND FUELS

TOPIC TAGS--EMULSION, CHEMICAL PATENT, HEAT TRANSFER FLUID, THIOL,
MERCAPTAN, BENZENE DERIVATIVE, ORGANIC AZOLE COMPOUND, PHOSPHATE ESTER,
ANTICORROSION AGENT, MARINE ENGINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/0088

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0127715

2/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124588

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDG. A SOLN. OF PEROXIDE
(CYCLOHEXANOYL, BENZOYL, ACETYL) TO REFLUXING SOLN. OF HG DIACYLATE IN C
SUB6 H SUB6 AND HEATING DURING GAS EVOLUTION, OR A SIMILAR REACTION RUN
IN UV LIGHT, RESULTED IN DECARBOXYLATION OF THE HG SALTS TO FORM
CYCLOHEXYLMERCURY SALTS. THE BEST YIELDS (92-95 PERCENT) WERE OBTAINED
WHEN THE PEROXIDE USED HAD THE SAME ORG. RADICAL AS THE HG SALT. THUS
WERE OBTAINED SALTS OF CYCLOPENTYL, AND CYCLOHEXYLMERCURY. ALSO FORMED
WERE MINOR AMOUNTS OF HG(I) SALTS, HG, AND SALTS OF PHHG. WHEN AC SUB2
O SUB2 WAS USED, 23-9 PERCENT MEHG SALTS WERE ISOLATED. THE
DECARBOXYLATION IS A CHAIN REACTION COURSE AND THE CHAIN LENGTH IS
SIMILAR FOR REACTIONS WITH BZ SUB2 O SUB2 AND AC SUB2 O SUB2.
FACILITY: INST. FIZ. ORG. KHIM., MINSK, USSR.

UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AA0127715

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN OIL EMULSION FOR COOLING SHIP
ENGINES, HAVING IMPROVED ANTICORROSION AND ANTICAVITATION PROPERTIES AND
IMPROVED HEAT TRANSFER, CONTAINS H SUB2 O 98-9, AROMATIZED OIL
0.712-1.424, NA SULFONATE 0.070-0.140, K NAPHTHENATE 0.180-0.360, 1,4
BUTYNE DIOL 0.010-0.020, MERCAPTOBENZOTHAZOLE 0.003-0.006, CR STEARATE
0.005-0.0010, AND ALKYLZINC DITHIOPHOSPHATE 0.020-0.040PERCENT.

UNCLASSIFIED

USSR

UDC 621.372.851.1

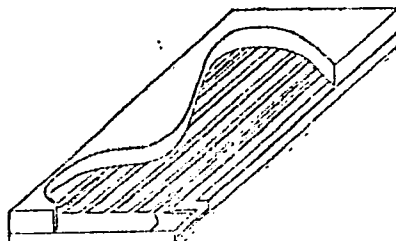
BUTOV, N. S.

"UHF Band Filter"

Moscow, Otkrytiya. izobreteniya. promyshlennyye obraztsy. tovarnyye znaki, No. 33, 1971, p 173

Abstract: The filter is of the ctenoid type, with flat dielectric ribbons on both sides of the central conductor. To broaden the pass band, the ribbons are made of different thicknesses, the thicker ribbon having the lesser dielectric permeability.

A sketch of the filter is shown.



1/1

- 24 -

USSR

UDC 621.396.6-181.48

BUTKOV, YU. G. and BABER, A. I.

"Layout Density of the Elements of Large Integrated Circuits"

Elektron. tekhnika. Nauch.-tekhn. sb. Mikroelektronika (Electronics Technology. Collected Scientific-Technical Works. Microelectronics), 1972, vyp.1(35), pp 50-53 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 V230)

Translation: Methodology is proposed for determining the possible degree of integration of elements and couplings on the plate of a monolithic, large integrated circuit with preferred connection orientation. Resume.

1/1

- 97 -

Computers: Digital

USSR

UDC 691.323

RAYKHMAN, Ya. A., RUDKO, V. A., BUTKOV, Yu. G., FURMAN, N. A., and KOZLOV, V. A.

"A Specialized Digital Computer for Calculating the Interconnections of Integrated Systems"

Moscow, Oktrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 22, Aug 72, Author's Certificate No 298936, filed 8 Aug 68, published 14 Jul 72, p 249

Translation: This Author's Certificate introduces: 1. A specialized digital computer for calculating the interconnections of integrated systems. The computer contains a memory device, address registers for given and current coordinates, comparison circuits, registers for points, an analysis circuit, a recording circuit, and an input/output module. As a distinguishing feature of the patent, speed is increased and the device is simplified by adding a block for transfers along X and Y and a circuit grouping block with its output connected to the first inputs of the address register for current X and Y coordinates, whose second inputs are connected to the first outputs of the blocks for transfers along X and Y respectively. The first outputs of the current coordinate registers are connected through a converter 1/3

USSR

RAYKHMEN, Ya. A., et al., Otkrytiya, Izobreteniya, Promyshlennyye Obratzysy, Tovarnyye Znaki, No 22, Aug 72, Author's Certificate No 298936, filed 8 Aug 68, published 14 Jul 72, p 249

to the input of the memory device, and the second outputs are connected to the first inputs of the first and second comparison circuits respectively. The second inputs of these comparison circuits are connected to the outputs of the address registers for the given X and Y coordinates, and the outputs are connected to the first inputs of the modules for transfers along X and Y. The second output of the module for transfers along X is connected to the second input of the module for transfers along Y and vice versa. The third inputs of both transfer modules are connected to the corresponding outputs of the point analysis circuit, and the third outputs are connected to the inputs of the point recording circuit, whose output is connected to the first input of the point register, which is connected to the memory device and to the circuit grouping block whose output is connected to the point analysis input. 2. A modification of this computer distinguished by the fact that the functional possibilities of the machine are extended by adding a coordinate register, boundary decoder, logic operations module and circuit suitability decoder to the circuit grouping block. The first output of the

2/3

USSR

RAYKHMAY, Ya. A., et al., Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 22, Aug 72, Author's Certificate No 298936, filed 8 Aug 68, published 14 Jul 72, p 249

suitability decoder is connected to the first input of the logic operations module whose outputs are connected to the corresponding inputs of the coordinate register, while the second inputs are connected to the outputs of the boundary decoder. The inputs of the boundary decoder are connected to the outputs of the coordinate register, and the second output of the suitability decoder is connected to the input of an element counter whose outputs are connected to the address register of the memory device.

3/3

USSR

UDC 613.644

BUTKOVSKAYA, Z. M., Institute of Labor Hygiene and Occupational Diseases

"Establishment of Hygienically Rational Magnitudes of Static Efforts Under the Impact of Vibration Produced by Manually operated Percussion Tools"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 3, 1972, pp 19-24

Abstract: Investigations were performed on laborers working with power tools (drills, hammers, and cutters) on various materials (soil, rock, steel, pig iron, and others) while holding the tools down, up, and horizontally. After working with tools producing vibration only 2-3 db greater than the norm and requiring an effort of 26-30 kg, the reaction of the body was identical with that occurring after physical exercise. However, tools producing vibration 10 db above the norm and requiring an effort of 20-26 kg generated a different reaction: a decrease in systolic pressure and cardiac output and an increase in peripheral resistance and in neuromuscular rheobase and chronaxy. It is concluded that the current norm concerning maximum effort should be reduced from 20 kg to 15 kg while the weight of the tool itself should not exceed 10 kg. It is technically possible to construct power tools of this type.

1/1

USSR

UDC 612.014.45 + 613.644 + 613.65

BUTKOVSKAYA, Z. M., and KADYSKINA, Ye. N., Leningrad, Institute of Labor Hygiene and Occupational Diseases

"Effect of Small Local Vibrations and Static Effort on the Organism"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 12, 1971, pp 18-22

Abstract: Effect of vibrations of 64, 32, and 16 Hz combined with a static effort of 15 kg on the human organism (20-26 year old males) was studied. Vibrations of the above frequencies combined with a muscular effort of 15 kg for 15 minutes did not produce any changes in the peripheral blood circulation or spasms of blood vessels. The same can be said about the neuromuscular system, with the exception of a slight decrease of the bioelectric activity of muscles after a 32 Hz vibration. A combination of a 64 Hz vibration and 15 kg muscular effort did not change the muscle tonicity; and 32 and 16 Hz vibrations produced definite changes in muscle tonicity, especially in the case of low-frequency vibration. However, all muscles returned to normal tonicity in 15 minutes after the vibrations. A temporary sensitivity loss was observed at certain points of the arm which was especially noticeable after a 64 Hz vibration for 15 minutes. The accepted industrial norms of 16 and 32 Hz vibrations combined with 15 kg muscular effort are justified, but 64 Hz vibration needs additional study.

1/1

- 70 -

1/2 023 UNCLASSIFIED PROCESSING DATE--11SEP70:
TITLE--CRYSTAL AND MOLECULAR STRUCTURE OF ACIDIC GADOLINIUM TETRAKIS
(BENZOYLACETONATE) -U-
AUTHOR--BUTMAN, L.A., ASLANOV, L.A., PORAYKOSHITS, M.A.
COUNTRY OF INFO--USSR **B**
SOURCE--ZH. STRUKT. KHIM. 1970, 11(1) 46-53
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CRYSTAL STRUCTURE, MOLECULAR STRUCTURE, GADOLINIUM COMPOUND, X
RAY STUDY, CRYSTAL LATTICE, COMPLEX COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/0313 STEP NO--UR/0192/70/011/001/0046/0053
CIRC ACCESSION NO--AP0103968
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0103968

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRUCTURE OF HGD(BA) SUB4 TIMES XPIP (X APPROXIMATELY EQUAL TO 1) WAS DETD. BY SINGLE CRYSTAL X RAY METHODS, WHERE HBA IS (PHCO) SUB2 CH SUB2 AND PIP IS PIPERIDINE. THE MONOCLINIC LATTICE PARAMETERS ARE A 31.568, B 20.214, C 10.692 ANGSTROMS, AND GAMMA EQUALS 138DEGREES 10 MINUTES; Z EQUALS 4, AND THE SPACE GROUP IS B2-B. THE GD ATOM IS LOCATED ON A CRYSTALLOGRAPHIC 2 FOLD AXIS AND IS SURROUNDED BY 8 O ATOMS FROM 4 BA RINGS (GD-O EQUALS 2.38-2.42 ANGSTROMS). THE COORDINATION POLYHEDRON IS A TETRAGONAL ANTIPRISM WITH THE RECTANGULAR FACES PARALLEL TO THE 2 FOLD AXIS. THE PH RINGS OF THE BA IONS ARE ALMOST PARALLEL TO THE PLANES OF THE CHELATE RINGS. THE CHELATE RINGS ARE FOLDED BY 26-29DEGREES ABOUT THE O-O LINE. THE GD COMPLEXES ARE PACKED SO THAT THERE ARE CHANNELS BETWEEN THEM WHICH CONTAIN THE DISORDERED PIPERIDINE MOL. THE MOL. PACKING EXPLAINS HOW PIPERIDINE IS LOST WITHOUT DESTROYING THE CRYSTALS.

UNCLASSIFIED

USSR

UDC 669.15--194.56:620.186.1

LANSKAYA, K. A., KAMENSKAYA, N. I., FAYVILEVICH, G. A., and BUTNEVA, N. I.,
Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin

"The Effect of Boron on the Distribution and Quantity of Carbide Phases in
Austenite Steel"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 10, 1972,
pp 43-45

Abstract: Boron added in different amounts to 1Kh14N18V2B heat-resistant austenite steel influences the distribution, size, and quantity of NbC particles in the steel. Addition of 0.005, 0.017, and 0.1% B leads to coagulation of NbC particles and changes their shape from rodlike to spheroidal. When the concentration of B reaches 0.26% the coagulated NbC particles are dissolved and Nb becomes a part of the solid solution. The presence of 0.005, 0.017, and 0.26% B decreases the concentration of C from 69 to 28 atomic % and increases the concentration of Cr from 8 to 51 atomic %. This decreases the concentration of $M_{23}C_6$ in steel and increases the amount of Cr in borides. Evidently part of C in $M_{23}C_6$ becomes substituted with B. In addition to borides the boron forms a eutectic structure in this steel at high temperature (1300°C). The quantity and composition
1/2

USSR

LANSKAYA, K. A., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 10, 1972, pp 43-45

of borides in the eutectic structure is determined by the concentration of boron. In the presence of 0.017% B the boride phase M_3B_2 is formed; when the concentration of B reaches 0.017-0.1%, M_3B_2 and M_2B are formed. The phase M_2B is formed when the concentration of B exceeds 0.1%. The eutectic structure in the steel under consideration consisted of a mixture of NbC and borides.

2/2

- 61 -

USSR

Welding

UDC 621.791.75.011:669.14.018+669.715

RYABOV, V. R., Candidate of Technical Sciences, YUMATOVA, V. I., Engineer,
BUTNIK, A. L., Engineer, GRABIN, V. F., Candidate of Technical Sciences,
KUZNETSOV, YE. P., Engineer, and BELOZEROV, L. F., Engineer, Institute of
Electric Welding imeni YE. O. Paton

"Effect of Alloying Elements in Steel on the Properties of Steel-Aluminum
Welded Joints"

Moscow, Svarochnoye Proizvodstvo, No 4, Apr 71, pp 9-12

Abstract: A study was made of the effect of alloying elements (Mb, Mn, Si, Va, Ti, Zr, Co, Nd) in steel on the properties of the diffusion zone created during aluminizing and welding and on the strength of welded steel-aluminum joints. The preparation of samples and the experimental procedure are described. The results show that introduction of alloying elements into a steel base delays the growth of the aluminized diffusion layer. The silicon introduced substantially reduces the microhardness of the aluminized diffusion layer. The plating method (aluminizing or galvanizing) before welding strongly affects the hardness of the joint.

1/1

USSR

UDC 621.791.762.5

SAKHATSKIY, G. P., and A. P. BUTNIK (Electric Welding Institute imeni Ye. O. Paton, Academy of Sciences Ukrainian SSR)

"Properties of Joints Made by Butt Welding in Forming Jigs"

Kiev, Avtomaticheskaya svarka, No 4, Apr 72, pp 56-58

Abstract: The formation of joints by flash butt welding is a complex physicochemical process controlled by heating and plastic deformation. Described here is a butt welding technique involving the use of forming jigs and permitting the control of volumetric stress, the nature of the plastic deformation with upsetting, and thus control of both the weldability of the metals and the weld quality. Under optimum conditions the use of jigs increases the upsetting force by 15-20% as compared to welding without forming. In most cases, the static strength and plasticity of the welds is close to that of the parent metal. The increase in notch toughness in resistance butt welding using shaping jigs as compared to conventional welding is attributed to a more intensive directional plastic deformation. (2 illustrations, 3 bibliographic references)

1/1

- 76 -

USSR

UDC 621.791.856.3:669.15-194:546.621

RYABOV, V. R., YUMATOVA, V. I., GRABIN, V. F., BUTNIK, A. P., DZYKOVICH, I. Ya., KUZNETSOV, Ye. P., and BELOZEROV, L. F., Institute of Electric Welding imeni Ye. O. Paton

"Effect of Nickel and Chromium in Steel on the Characteristics of Alloy Combinations"

Kiev, Avtomaticheskaya Svarka, No 2, Feb 71, pp 18-23

Abstract: An investigation was made of the effect of additions of nickel and chromium to Armco iron on the characteristics of the diffusion layer which appears during calorization. The dependence of the durability of steel-aluminum alloys on the additions contained in the steel was also studied. The nickel and chromium alloys with steel were prepared in an induction furnace with a capacity of 7 kg, and the ingots obtained were annealed at 1100-1200°C for three hours. They were then rolled into plates measuring 220 x 1200 x 3 mm. After slag removal, the specimens were calorized in an aluminum bath and cleaned. Tests were made of welds of experimental alloys prepared in the ADSV-2 automatic welder, and the phases of the layers formed during calorization and welding were studied

1/2

- 65 -

USSR

RYABOV, V. R., et al, Avtomaticheskaya Svarka, No 2, Feb 71, pp 18-23

by X-ray analysis. The introduction of nickel and chromium was found to delay the growth of the calorized diffusion layer.

2/2

UDC 632.95

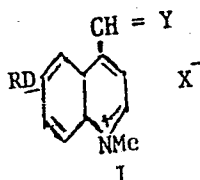
USSR

BUTNITSKIY, I. N., ROGOVIK, M. K., GUTSULYAK, B. M.

"Derivatives of Lepidinium as Plant Growth and Development Regulators. IV. Synthesis and Physiological Activity of Some Derivatives of 1-methyl-6-oxy-lepidinium Chloride"

Fiziol. aktivn. veshchestva. Resp. mezhved. sb. (Physiologically Active Materials. Republic Interdepartmental Collection), 1972, No 4, pp 101-105 (from RZh-Khimiya, No 5 (II), 1973, Abstract No 5N641)

Translation: A method was developed for obtaining compounds with the formula (I): 137.6 grams of p-MeNHC₆H₄OH, 240 ml of acetone, 4.9 ml of concentrated HCl (acid) and 100 ml of water were heated at 80°, and a mixture of 12 grams of paraform, 40 ml of BuOH, 1 ml of concentrated HCl (acid) and 60 ml of acetone was added with mixing. The reaction mass was heated for 4 hours and left to stand for 24 hours. The acetone was driven off, 120 ml of alcohol



USSR

BUTNITSKIY, I. N., et al., Fiziol. aktivn. veshchestva. Resp. mezhved. sb., 1972, No 4, pp 101-105

was added, the mass was cooled and the I ($R = H$, $Y = H_2$, $X = Cl$) (Ia) was isolated with a melting point of 185° and a 50% yield. On replacing the HCl (acid) with 57% $HClO_4$, I ($R = H$, $Y = H_2$, $X = ClO_4$) was obtained with a melting point of $195-197^\circ$. The reaction of Ia with the corresponding aromatic aldehydes in the presence of pyridine yields I (R , Y , X are presented, melting point in $^\circ C$): H , $CHPh$, Cl 233-235; H , $CHC_6H_4NO_2-p$, Cl, 217; H , $CHC_6H_4NO_2-m$, Cl, 223-224; H , CHC_6H_4OH-p , Cl, 223-225; H , $CHC_6H_3OH-p-OMe-m$, Cl (Ib), 228-229; H , $CHC_6H_4NMe_2-p$, Cl (Ic), 207-209. On solution in an acetic anhydride medium, I ($R = Ac$, $Y = CHC_6H_4NMe_2-p$, $X = Cl$) is obtained with a melting point of $74-5^\circ$. Also 1-methyl-6-oxyquinoline-4-(1'-ethylquinoline-4')-monomethinecyaniniodide is obtained with a melting point of $205-207^\circ$. The growth stimulating activity of Ib and Ic in the initial growth phase of Belotserkovskaya 23 wheat and Nadezhnyy oats with a 0.0001 M concentration of the solutions is equal to the activity of K heteroauxinate. For Part III see RZh-Khimiya, 1971, Abstract No 18N683.

2/2

- 52 -

USSR

UDC: [(621.391.82-758.37):621.375.4](088.8)

BUTOV, N. S., VINOGRADOV, B. M.

"An Interference-Quenching Device for a Tunnel-Diode Amplifier"

USSR Author's Certificate No 278772, filed 28 Apr 69, published 3 Dec 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A234 P)

Translation: Existing interference-quenching devices for tunnel-diode amplifiers are relatively narrow-band devices and do not provide sufficiently reliable protection of the amplifier when it is subjected to strong interference. In the proposed device, diode switches are connected between the open ends of quarter-wavelength sections of strip lines and the amplifier shield. The degree of interference attenuation increases as the interference intensity increases. A. K.

1/1

UDC 616.43-001.28-092.9-091

USSR

ZAYTSEVA, K. K., ~~BUTOHO~~, N. V., and FOMINA, G. S., Military Medical Academy imeni
S. M. Kirov, Leningrad

"Morphofunctional Changes of Endocrine Organs in Experimental Radiation Chimeras"

Moscow, Doklady Akademii Nauk SSSR, Vol 193, No 3, pp 703-705

Abstract: The morphofunctional state of the adrenal and thyroid glands and the anterior part of the pituitary gland in long-lived allogenic radiation chimeras was studied under conditions of bone marrow transplants. The recipients (male mice and rabbits) were subjected to gamma-ray irradiation from a Co⁶⁰ source. The test animals received bone marrow cells or a transplant 24 hours after irradiation. Control and test animals were sacrificed and examined 40-50 days later. Hyperfunction of the adrenal cortex, hypofunction of the thyroid gland, and some activation of the thyrotropic function of the anterior portion of the pituitary gland were found to occur when the animals exhibited a secondary illness. In animals with no symptoms of a homologous disease and in syngenetic chimera, these conditions are either absent or only very weakly evident. Consequently, these conditions cannot be attributed exclusively to the development of immunological reactions. The disturbances must be regarded as partially a result of radiation

1/2